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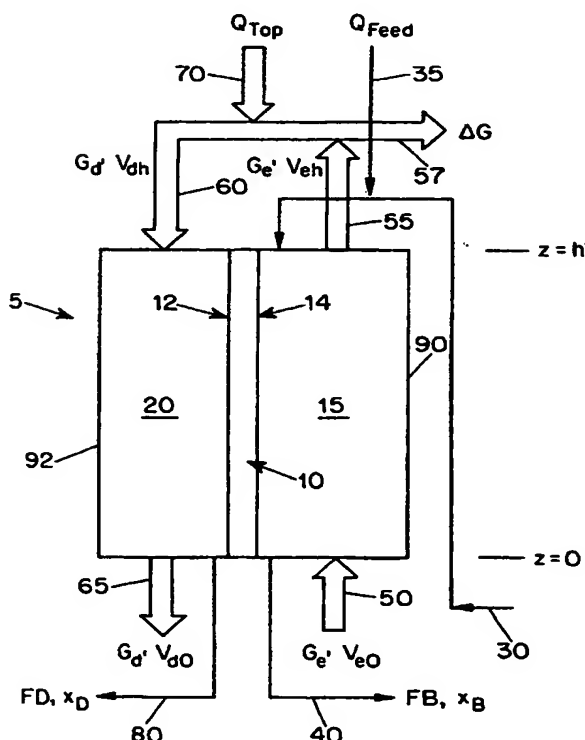
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(54) Title: **METHOD AND APPARATUS FOR SIMULTANEOUS HEAT AND MASS TRANSFER UTILIZING A CARRIER-GAS**



(57) Abstract: A continuous contacting apparatus for separating a liquid component from a liquid mixture comprises: (i) an evaporation chamber (15) having first and second ends, an inlet (50) and an outlet (55) for a carrier gas, and an inlet (30) and an outlet (40) for a liquid mixture, wherein the inlet (30) for the liquid mixture and the outlet (55) of the carrier gas are located on the first end of the evaporation chamber (15); (ii) a dew-formation chamber (20) having an inlet (60) and an outlet (65) for a carrier gas and an outlet for the separable liquid component (80), wherein the inlet for the carrier gas of the dew-formation chamber (20) is situated in a countercurrent manner to the inlet for the carrier gas of the evaporation chamber; (iii) a common heat transfer wall (10) providing thermal communication between the evaporation chamber (15) and the dew-formation chamber (20); (iv) a feeding device for providing the liquid mixture onto the evaporation side of the heat transfer wall; (v) an air mover for controlling a flow of a carrier gas through the chambers, wherein the gas flow in the evaporation chamber is countercurrent to the gas flow in the dew-formation chamber; and (vi) a heating apparatus for heating the carrier gas from the outlet of the evaporation chamber, wherein the heated carrier gas is directed to flow into the inlet of the dew-formation chamber. Also described is a process for separating a liquid component from a liquid mixture in a continuous contacting manner comprising employing such an apparatus for such separation.